

Science Shoebox Activity

Title: The Clouds

Grade 3 – Earth and Space Science

Content Standard 8 – The Atmosphere

Grade Learning Expectation: GLE 0307.8.3 Identify cloud types associated with particular atmospheric conditions.

Performance Indicators State:

SPI 0307.8.2 Match major cloud types with specific atmospheric conditions.

Task Objective: The students will create their own clouds using construction paper and cotton balls.

Materials

The Cloud Book by Tomie de Paola, 1 piece of blue construction paper for each student, cotton balls, glue, pencil, black marker, and ruler.

Background Knowledge for Teachers

There are three major cloud types; Cirrus, Cumulus, and Stratus. Cirrus Clouds are the most common of the high clouds. They are composed of ice and are thin, wispy clouds blown in high winds. They are usually white and predict fair to pleasant weather. When you see cirrus clouds, it also indicates that a change in the weather will occur in 24 hours. Cumulus Clouds are puffy white clouds that look like cotton. They are often referred to as “fair weather clouds”. The bases of these clouds are flat and the top of the cloud has rounded towers. These clouds grow upward and they can develop into giant cumulonimbus clouds, which are thunderstorm clouds. Stratus clouds are uniform gray clouds that often cover the entire sky. Stratus clouds are also low clouds. They resemble fog that doesn’t reach the ground. Light mist or drizzle sometimes falls out of these clouds.

Across the Curriculum

Math

Divide the construction paper in three parts using a ruler. Use fractions to describe amount of cotton balls to be used.

GLE 0306.2.5 Understand the meaning and uses of fractions.

GLE 0306.4.4 Use appropriate units, strategies and tools to solve problems involving perimeter.

SPI 0306.4.5 Choose reasonable units of measure, estimate common measurements using benchmarks and use appropriate tools to make measurements.

Social Studies: Culture

Discuss and compare various Cultures that was discussed within the book.

3.1.tpi.3 Recognize that the world is made up of many people, and their history may differ from the student's own by examining artifacts such as a cultural time capsule or a cultural suitcase.

Language Arts

Read The Cloud Book by Tomie de Paola and discuss the different cloud types and the various descriptions that are used to identify the clouds. Discuss how different cultures view the clouds.

SPI 0301.5.2 Distinguish between fact and opinion within text.

SPI 0301.8.4 Determine sequence of events in text.

References:

The Cloud Book by Tomie de Paola

Teachers.net #1020 Clouds: Cumulus, Cirrus, and Stratus

www.teachers.net/lessons/posts/1020.html

Wiz Kids Weather

www.weatherwizkids.com

Task Objective

To be able to recognize and form the different cloud types.

The Clouds**Student Instructions:**

1. Prepare your construction paper.

- ☐ Lay your construction paper long, like a hot dog.
- ☐ From the top to bottom use the ruler to measure 4 ½ inches and make a small mark. Notice that the length of the construction paper is 9 inches.
- ☐ Turn the ruler the length of the paper at the 4 ½ inch mark and draw a line all the way across the paper.
- ☐ Leave the ruler on the line you drew and notice the width of the paper is 12 inches. Make another mark at 6 inches.
- ☐ From the top center of the paper, use the ruler to draw a straight line to the center of the paper at the 6 inch mark you made.

2. Use the materials provided to make the three different cloud types that are discussed in The Cloud Book. Cirrus, cumulus, and stratus clouds, found on pages 9,10, and 11.

3. In the first box on your construction paper make a Cirrus cloud with a cotton ball. Remember the Cirrus clouds are thin. Tear a cotton ball in half and stretch out both pieces to make thin Cirrus clouds. Glue your Cirrus cloud to your paper and label it.
4. In the second box (on the right) of your construction paper make a Cumulus cloud. Remember that the Cumulus cloud is puffy and looks like cauliflowers. They have a flat bottom and grow tall. Stretch out ½ of a cotton ball as flat as you can and add more cotton balls to the top to make is puffy and tall. Glue your Cumulus cloud to your paper and label it.
5. In the bottom box make the Stratus clouds. Remember Stratus clouds are the low lying, thick fog like clouds. Don't over stretch your cotton balls. Glue your Stratus cloud to your paper and label it.
6. Trace over your pencil marks with the black marker, including your labels.

Assessment

1. Which Cloud type looks like a piece of food?	
2. What cloud type is thick and lays low?	
3. Describe what a cirrus cloud looks like.	
4. What are some things that you have seen form in the clouds?	

Clean up

****Don't forget clean up. Make sure the shoebox is nice and clean and everything is placed back inside the box with the lid nice and tight.***

